Claims.

1.- Method for controlling the oil recirculation in an oil-injected screw-type compressor comprising a compressor element (1), connected thereto an inlet conduit (5) and a pressure conduit (8), an oil separator (10) in said pressure conduit (8), an oil recirculation conduit (17) between said oil separator (10) and the compressor element (1), in which recirculation conduit (17) an oil cooler (18) is installed, and a passage or bypass (30) bridging-over the oil cooler (18) in the recirculation conduit (17), which controlling is performed by means of a thermostatic valve (24) having a valve element (26) which can be moved by means of a temperature-sensitive element (34), whereby the temperature-sensitive element (34) measures the temperature of the recirculating oil and the valve element (26), if this temperature is below a certain value, opens the bypass (30), such that the separated oil from the oil separator (10) can flow directly towards the compressor element (1) without having to flow over the oil cooler (18) and, if the temperature of the oil is above a certain value, which is higher than or equal to the aforementioned value, the valve element (26) closes off the bypass (30), characterized in that during the transition of the screw compressor from the unloaded to the loaded condition, the effect of the temperature-sensitive element (34) temporarily is switched off at least partially, such that the valve element (26) temporarily takes a position in which, regardless of the temperature of the oil, at least the bypass (30) is open and thus the recirculation of oil from the oil separator (10) to the compressor element (1) temporarily takes place at least through this bypass (30).

2.- Method according to claim 1, characterized in that during the transition from unloaded to loaded, the valve element (26) temporarily takes a position whereby the bypass (30) as well as the recirculation conduit (17) are open, such that the oil temporarily can flow through the bypass (30) as well as through the oil cooler (18) back to the compressor element (1), regardless of the temperature of the oil.

3.- Method according to claim 1 or 2, characterized in that the temporarily switching off of the effect of the temperature-sensitive element (34) takes place by realizing a part of the wall of the thermostatic valve (24), against which the temperature-sensitive element (34) normally is situated, as a piston (37) of a pneumatically controllable piston mechanism.

4.- Method according to any of the preceding claims, characterized in that as control pressures, the pressure (P2) in the oil separator (10) and the control pressure (P1) for operating a controlled inlet valve (7) in the inlet conduit (5) are used.

5.- Method according to claims 3 and 4, characterized in that the pressure (P2) prevailing in the oil separator (10) is exerted onto a head (37B) of the piston (37), whereas the oil pressure itself is exerted onto an end of the piston (37) with a smaller surface, said end forming a plunger (37A), and the side along which the first-mentioned pressure (P2) is exerted, can be put into connection with the atmosphere by means of an outlet (52) which is controlled by a valve body (48) which in its turn is controlled by the control pressure (P1) of a controlled inlet valve (7).

6.- Oil-injected screw-type compressor comprising a

screw-type compressor element (1), connected thereto an inlet conduit (5) and a pressure conduit (8), an oil separator (10) in said pressure conduit (8), an oil recirculation conduit (17) between said oil separator (10) and the compressor element (1), in which recirculation conduit (17) an oil cooler (18) is installed, and a bypass (30) bridging-over the oil cooler (18) in the recirculation conduit (17) and which can be closed off by the valve element (26) of a thermostatic valve (24) with a valve element (26) which can be moved by means of a temperature-sensitive element (34) situated in the oil recirculation conduit (17), characterized in that the screw-type compressor comprises a control system (38) which, during the transition from the unloaded to the loaded condition, temporarily switches off the effect of the temperature-sensitive element (34) onto the valve element (26) of the thermostatic valve (24) at least partially, such that during this transition, the valve element (26) is in a position in which at least the bypass (30) is open, regardless of the temperature of the oil.

7.- Screw-type compressor according to claim 6, characterized in that the bypass (30) is limited to a passage (30) between a part (17C) of the recirculation conduit (17) situated between the oil separator (10) and the oil cooler (18), and a part (17B) of the recirculation conduit (17) situated between the oil cooler (18) and the compressor element (1).

8.- Screw-type compressor according to claim 6 or 7, characterized in that the valve element (26) of the thermostatic valve (24) is situated in the bypass (30) as well as in the recirculation conduit (17) upstream from the bypass (30), such that, in one position, it simultaneously opens the bypass (30) and closes off the

part (17B) of the recirculation conduit (17) situated between the outlet of the oil cooler (18) and the bypass (30), and in another position simultaneously closes off the bypass (30) and opens said part (17B) of the recirculation conduit (17).

9.- Screw-type compressor according to claim 8, characterized in that the valve element (26) in the first-mentioned position and/or in an intermediary position opens the bypass (30) as well as said part (17B) of the recirculation conduit (17).

10.- Screw-type compressor according to claim 7, characterized in that the thermostatic valve (24) comprises a housing (23) with a space (25) inside, in which space a valve element (26) is movable, and that the passage (30) is an opening giving out onto this space (25).

11.- Screw-type compressor according to claim 10, characterized in that it comprises an oil filter (19) which is installed in the recirculation conduit (17), between the bypass (30) and the compressor element (1), and the space (25) is in connection with the inlet of the oil filter (19).

12.- Screw-type compressor according to any of the claims 6 to 11, characterized in that the control system (38) comprises a piston (37) which is movable in a chamber (43) and in one position forms a stop for a temperature-sensitive element (34) of the thermostatic valve (24).

13.- Screw-type compressor according to claim 12, characterized in that the chamber (43), at one side of the piston (37), is in connection with the oil separator (10), such that the piston (37) can be maintained in said position by the pressure (P2) in this oil separator (10),

and the control system (38) comprises an auxiliary control in the form of a relief valve (47) putting the chamber (43) at said side in connection with the atmosphere when a control pressure (P1) is situated between two well-defined values.

14.- Screw-type compressor according to claim 9, characterized in that the relief valve (47) is controlled by the control pressure (P1) of the inlet valve (7).

15.- Screw-type compressor according to claim 13 or 14, characterized in that the relief valve (47) comprises a valve body (48) with a hollow part giving out to the atmosphere and which in its wall is provided with at least one opening (49) which, for a certain position of the valve body (48), gives out onto a duct (45) by which the chamber (43) is in connection with the oil separator (10).

16.- Screw-type compressor according to claim 14 and 15, characterized in that at one extremity, the valve body (48) has a piston-forming part (48A) which is movable in a chamber (53) which is in connection with a part of the compressor where the control pressure (P1) for opening the inlet valve (7) is prevailing.

17.- Screw-type compressor according to claim 16, characterized in that the other extremity of the valve body (48) cooperates with two springs (56,57), whereby the one (57) thereof is stronger than the other and only can be compressed by the valve body (48) after the other (56) has been partially compressed.